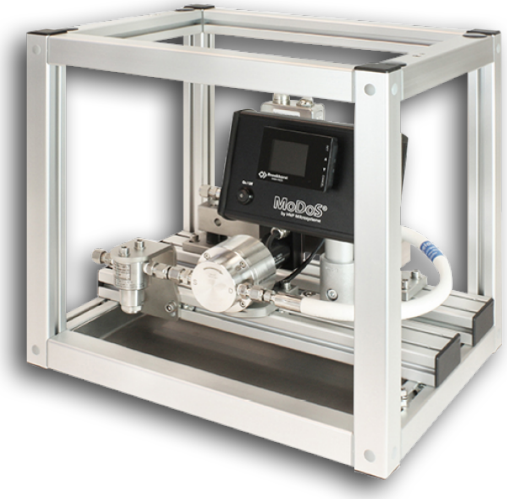
# Product information

Modular Dosing System · MoDoS




## Description

The Modular Dosing System MoDoS® is a tailor-made pump system for continuous production process in fine chemical and pharmaceutical production.

MoDoS is synonym for a design concept and a component kit. We provide detailed advice on the selection and integration of components.

You will receive a tested and ready-to-use dosing system in a stable frame. The selection of components is carried out on the process parameters. We use flow sensors based on the Coriolis principle.

MoDoS is a complete solution for process-safe pumping in the low-volume range, suitable for vaccines, APIs, acids, alkalis, catalysts, ammonia and much more.

### Advantages

- Ready-to-use unit fully equipped and assembled system in a rigid framework
- Modular system of components individually equipped with micro annular gear pump, filters, sensors, valve, fluid connections
- Chemical resistant materials material combinations from stainless steel / hard metal to alloy C22 / ceramics
- High process stability mass or volume flow controlled micro annular gear pumps
- Standard fluidic interfaces Local controller
- Stand-alone mode as well as integration into external process control systems
- Open design easy access and exchange of all components

## Applications

- Micro process technology
- Flow chemistry
- Fine chemistry
- Pharmaceutical production
- Miniplant technology
- Dosing and filling

## Technical data

| | |
|---|---|
| Pumps | Micro annular gear pumps of hermetic inert series for volume flows from 0.003 to 288 ml/min at differential pressures up to 40 bar * |
| Filter | Filters in stainless steel, alloy C22 * |
| Mass flow controllers | Measurement principle Coriolis |
| Fluid connection | Compression fittings OD 6, OD 1/4", OD 1/8" or 1/4" 28UNF female * |
| Liquid temperature range | -20 … +60 °C (-4 ... 140 °F) * |
| Viscosity range | 0.3 … 30 * mPas |
| Wetted parts | Material combinations: stainless steel / hard metal, alloy C22 / ceramics * |
| Power supply | 24 V DC |
| Display | Mass flow * |
| Controller and interfaces | Mass flow control with display, 4-20 mA, RS-232 * |
| Remarks | * depending on the components selected |

**Notice**
Even if single parameters are within the indicated performance range of technical data, certain parameter combinations may not be achievable. Single parameters may exceed their indicated performance range under adequate circumstances. For detailed evaluation please contact HNP Mikrosysteme. Actual performance may vary. Specifications are subject to change without notice. This document is subject to change without notice.

## Typical Liquids

- Acids and bases
- Organometallic compounds, butyl lithium
- Catalysts
- Ammonia, pure or in solution
- Pharmaceutical ingredients and vaccines
- Solutions of radioactive isotopes
- Organic reagents

## Components

- Micro annular gear pump
- Sensors for flow
- Display Control
- Filter
- Screw-in fittings, adapters
- Hoses, pipes
- Frames

## Patents and trademarks

Our products are protected by the following national and international patents: DE 10 2018 129 631.2 B3; EP 3 884 162; CN 113 302 399 B; DE 10 2018 129 633.9 B3; EP 3 884 160; CN 113 272 553 B; DE 10 2018 129 634.7 B3; EP 3 884 527; DE 10 2018 129 635.5 B3; EP 3 762 165; DE 10146 793.1; EP 1 354 135 B1; US 7,698,818 B2; DE 10 2011 051 486 B4; EP 2 726 740 B1; US 9,404,492 B2; CN 103 732 921B; EP 2 640 977 B1; US 10,012,220 B2; CN 103 348 141 B; HK 1 185 648 B.
HNPM®, mzr®, MoDoS®, µ-Clamp®, µDispense®, LiquiDoS®, smartDoS®, colorDoS®, MSM®, are registered German trademarks of HNP Mikrosysteme GmbH.

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